

Climatic Perspectives

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MONTHLY SUPPLEMENT INCLUDED

A weekly review of Canadian climate

June 17 to 23, 1986

Vol.8 No.25



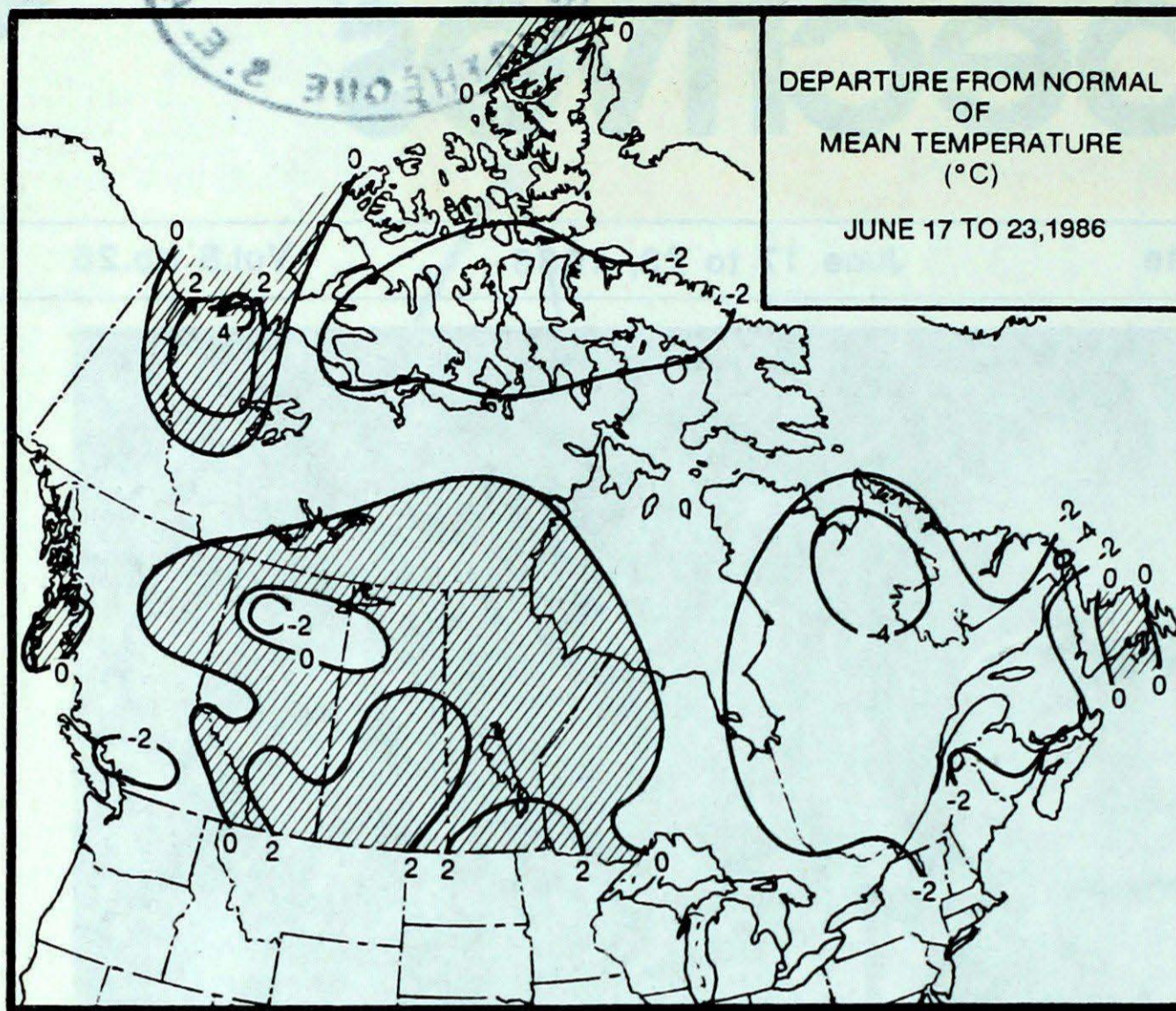
Severe thunderstorms produced hailstones the size of tennis balls near Montréal on Thursday May 29, 1986. For more information about hail see page 3. More photographs included in the feature article on page 11B. Photo courtesy of "Le Journal de Montréal".

● ***Wet weather hampers logging in Central B.C.***

– but Peace River District very dry

● ***Tornadoes on the Prairies***

TEMPERATURE



ACROSS THE COUNTRY...

Yukon and Northwest Territories

Western areas were mild with varying amounts of sun and cloud; temperatures turned cooler over the weekend. Showers and thundershowers were prevalent in some areas. Low cloud was common in the eastern and high Arctic as were periods of snow and rain. Fog and freezing drizzle was reported along the Baffin Island coastline.

British Columbia

The week was primarily unsettled and cool. Showers and thunderstorms were prevalent in most districts. Some logging roads in the interior were in poor shape because of the rain. The town of Telkwa, west of Prince George, suffered severe flooding early in the week. On a positive note, the forest fire hazard remained low. Fresh snow fell on the Salmo-Creston pass in the Kootenays. It became windy in the northeast. This hampered crop spraying in the Peace River District, where grains were doing poorly because of the lack of moisture.

Prairie Provinces

After a cool start, record warm weather moved into the Prairies by mid-week, with readings climbing into the thirties. An area of low pressure moved across the region on June 18 and 19, touching off severe thunderstorms in many central and southern districts. Many locations were hit with marble to golf ball sized hail, and were buffeted by storm gusts to 100 km/h. Funnel clouds were sighted over Saskatoon on June 18, and a tornado touched down later in the day. Early on the morning of the 19th there were many reports of wind damage near Edmonton, and a tornado was sighted near High Prairie. The same morning at Regina Airport a tornado damaged and spun planes around on the tarmac. Tornado damage was also reported 10 km southwest of Regina. The weekend saw a return to sunny and cooler conditions.

WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM	MINIMUM
BRITISH COLUMBIA	PENTICTON 32	PUNZI MOUNTAIN -2
YUKON TERRITORY	DAWSON 27	BURWASH -2
NORTHWEST TERRITORIES	FORT SMITH 29	DEWAR LAKES -7
ALBERTA	MEDICINE HAT 34	BANFF 2
SASKATCHEWAN	ROCKGLEN 35	COLLINS BAY 4
MANITOBA	PORTAGE LA PRAIRIE 33	THOMPSON -3
ONTARIO	WINDSOR 32	LONDON -4
QUEBEC	BAGOTVILLE 29	KUUJJUAPIK -3
	VAL D'OR	
NEW BRUNSWICK	CHATHAM 29	ST STEPHEN 1
NOVA SCOTIA	GREENWOOD 25	SYDNEY 1
	TRURO	
PRINCE EDWARD ISLAND	SUMMERSIDE 24	CHARLOTTETOWN 5
NEWFOUNDLAND	GOOSE 30	BADGER -2

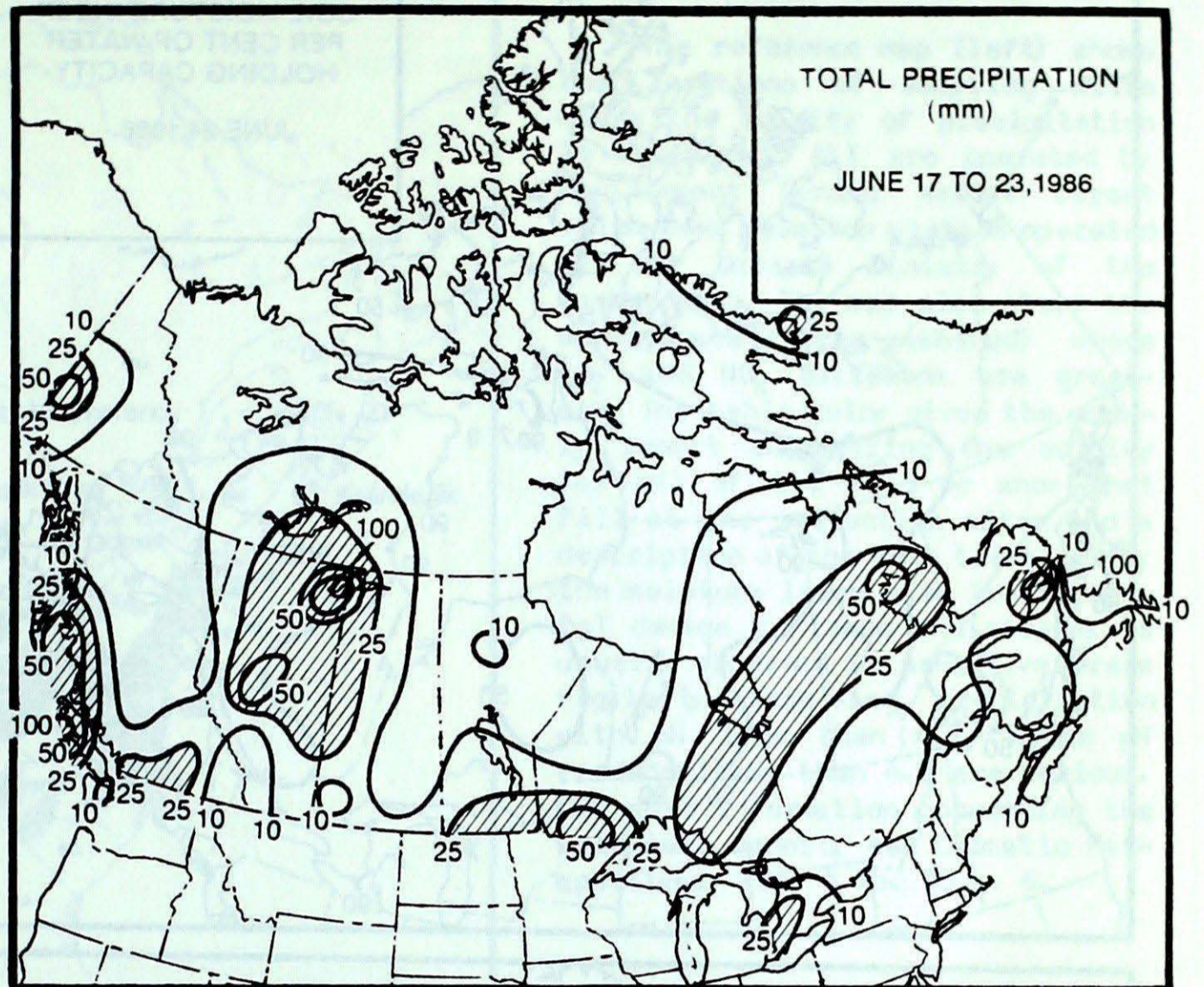
ACROSS THE NATION

WARMEST MEAN TEMPERATURE	20	WINDSOR	ONT
		WINNIPEG INT'L	MAN
COOLEST MEAN TEMPERATURE	-2	DEWAR LAKES	NWT

Ontario

The week began cool and dry, but became progressively more unsettled towards the weekend. Frost occurred in northern Ontario. Several 24-hour precipitation records were broken across the province on June 19, when thunderstorms produced between 30 to 45 millimetres of rain; hail fell at Sudbury and Tavistock. Heavy thunderstorms once again rolled across Ontario on Sunday, preceded by a record warm, humid airmass. Hail and funnel clouds were reported in southwestern Ontario. The storms produced locally heavy downpours and gusty winds, which toppled trees and knocked down high voltage lines, leaving several communities in the south without power.

Footnote: The tornado which crossed Ontario's Haliburton District on June 16 caused approximately \$4 million damage, including the destruction of more than 100 cottages and houses.

**Quebec**

A cool Arctic airmass encompassed the province in the wake of an active cold front, which triggered severe thunderstorms on June 16. More than twenty daily low temperature records were broken this week. Under mainly sunny skies, farmers in the south were able to finish bringing in the first hay crop. In the north, it was cloudy, with a mixture of rain and snow.

Atlantic Provinces

Although the weather in the Maritimes started off on the cool side, there was a considerable amount of sunshine. Frost occurred in northwestern New Brunswick. On June 16, intense thunderstorms moved across the Hartland area of New Brunswick. Downpours and strong winds uprooted trees and damaged vegetable fields. In Newfoundland, thundershowers gave way to a relatively fair week. The weather in Labrador was cool, with significant amounts of precipitation, consisting of snow in the north and west. Ten new forest fires were reported on the Island. One fire destroyed a sawmill on the west coast.

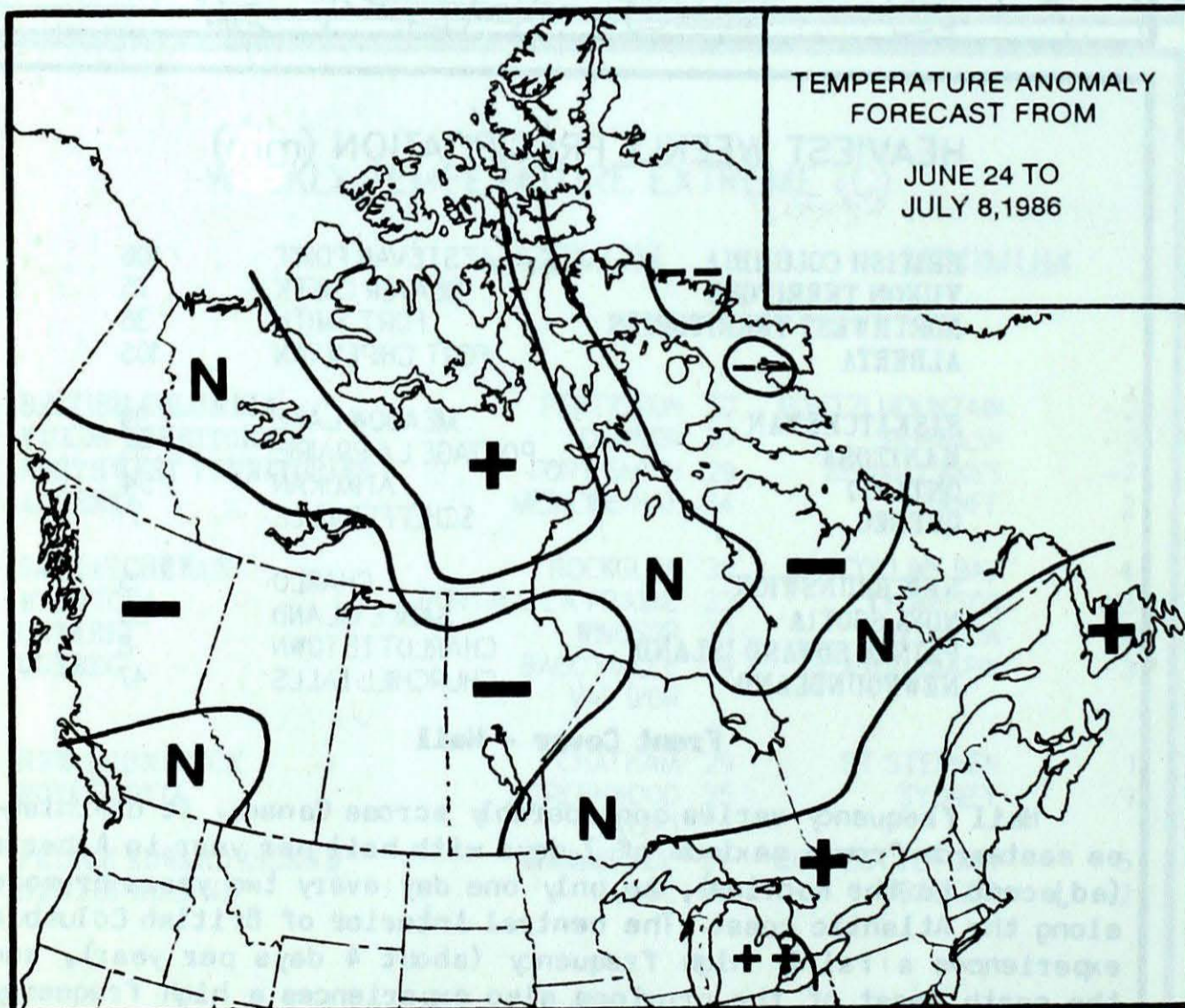
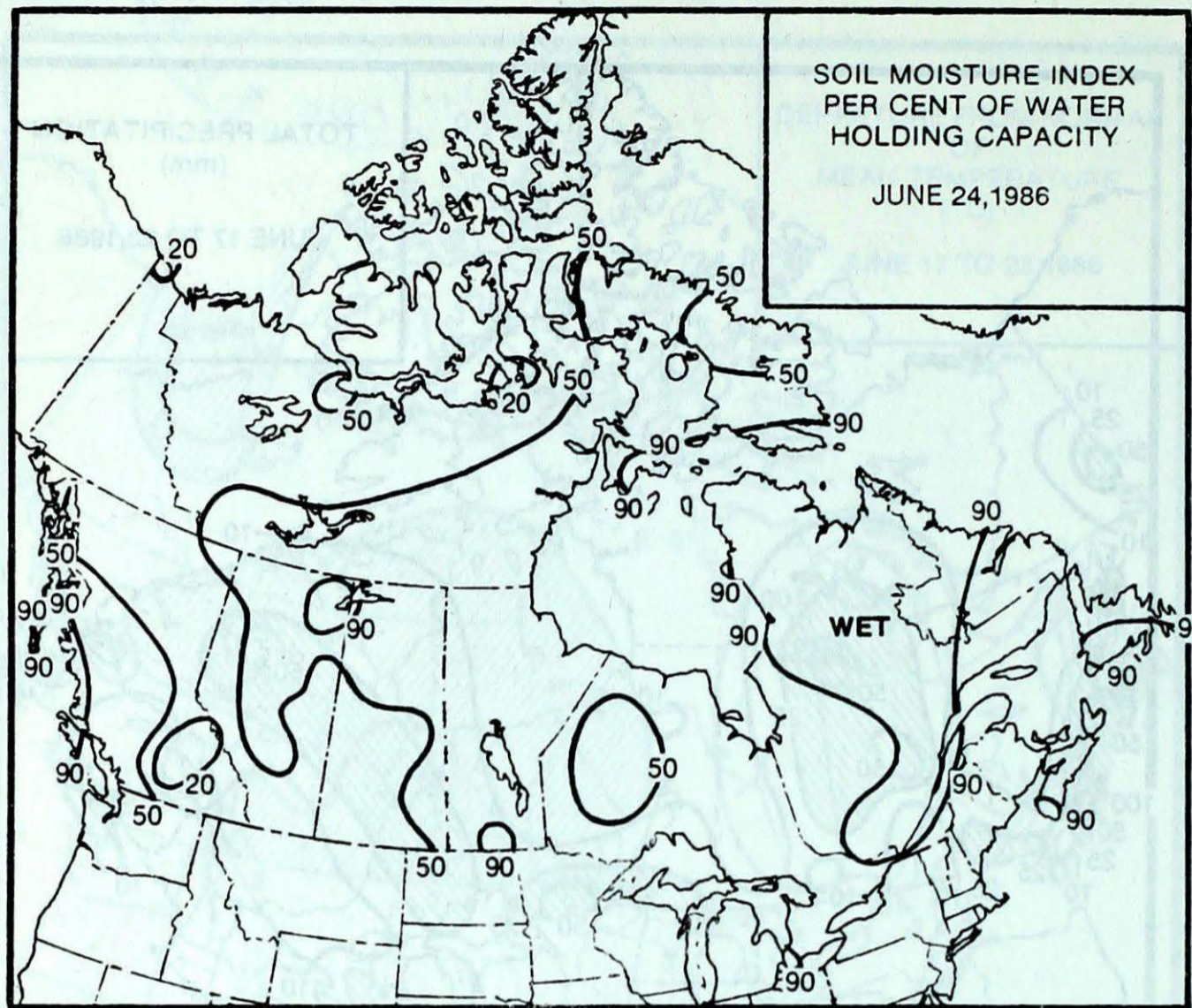
HEAVIEST WEEKLY PRECIPITATION (mm)

BRITISH COLUMBIA	ESTEVAN POINT	106
YUKON TERRITORY	BEAVER CREEK	75
NORTHWEST TERRITORIES	FORT SMITH	36
ALBERTA	FORT CHIPEWYAN	105
SASKATCHEWAN	MEADOW LAKE	39
MANITOBA	PORTAGE LA PRAIRIE	35
ONTARIO	ATIKOKAN	54
QUEBEC	SCHEFFERVILLE	71
NEW BRUNSWICK	CHARLO	15
NOVA SCOTIA	SABLE ISLAND	33
PRINCE EDWARD ISLAND	CHARLOTTETOWN	8
NEWFOUNDLAND	CHURCHILL FALLS	47

Front Cover - Hail

Hail frequency varies considerably across Canada. It diminishes eastwards from a maximum of 7 days with hail per year in Alberta (adjacent to the Rockies), to only one day every two years or more along the Atlantic coast. The central interior of British Columbia experiences a fairly high frequency (about 4 days per year), and the north coast of the province also experiences a high frequency of spring thunderstorms, which produce small hail. The largest hailstone documented in Canada fell at Cedoux, Saskatchewan, in August 1973, weighed 290 grams, and was as large as a large grapefruit. Reports of golf-ball sized hail are relatively common, and every year hail the size of tennis balls can be expected somewhere in Canada from the Rockies to New Brunswick. The large hailstone featured on the front cover fell near Montréal, Québec, on May 29, 1986. (for more detail see page 1B).

ACID RAIN



Temperature Anomaly Forecast

- ++ much above normal
- + above normal
- N normal
- below normal
- much below normal

This forecast is prepared by searching historical weather maps to find cases similar to the present. The historical outcome during the 15 days subsequent to the chosen analogues is assumed to be a forecast for the next 15 days from now.

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Managing Editor M.J. Newark
 Editor (English) A.K. Radomski
 Editor (French) A.A. Gaillet
 Staff Writer M. Skarpathiotakis
 Art Layout K. Czaja
 Cartography G. Young/T. Chivers
 B. Taylor
 Word Processing U. Ellis, P. Burke

Regional Correspondents

Atl.: F. Amirault; Que.: J. Miron
 Central: B. Tortorelli;
 Ont.: A. Radecki; Western: W. Prusak;
 Pac.: R. McLaren; Yukon Weather
 Centre; Frobisher Bay Weather
 Office; Yellowknife Weather Office;
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 Satellite Data Lab
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The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. The contents may be reprinted freely with proper credit.

The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

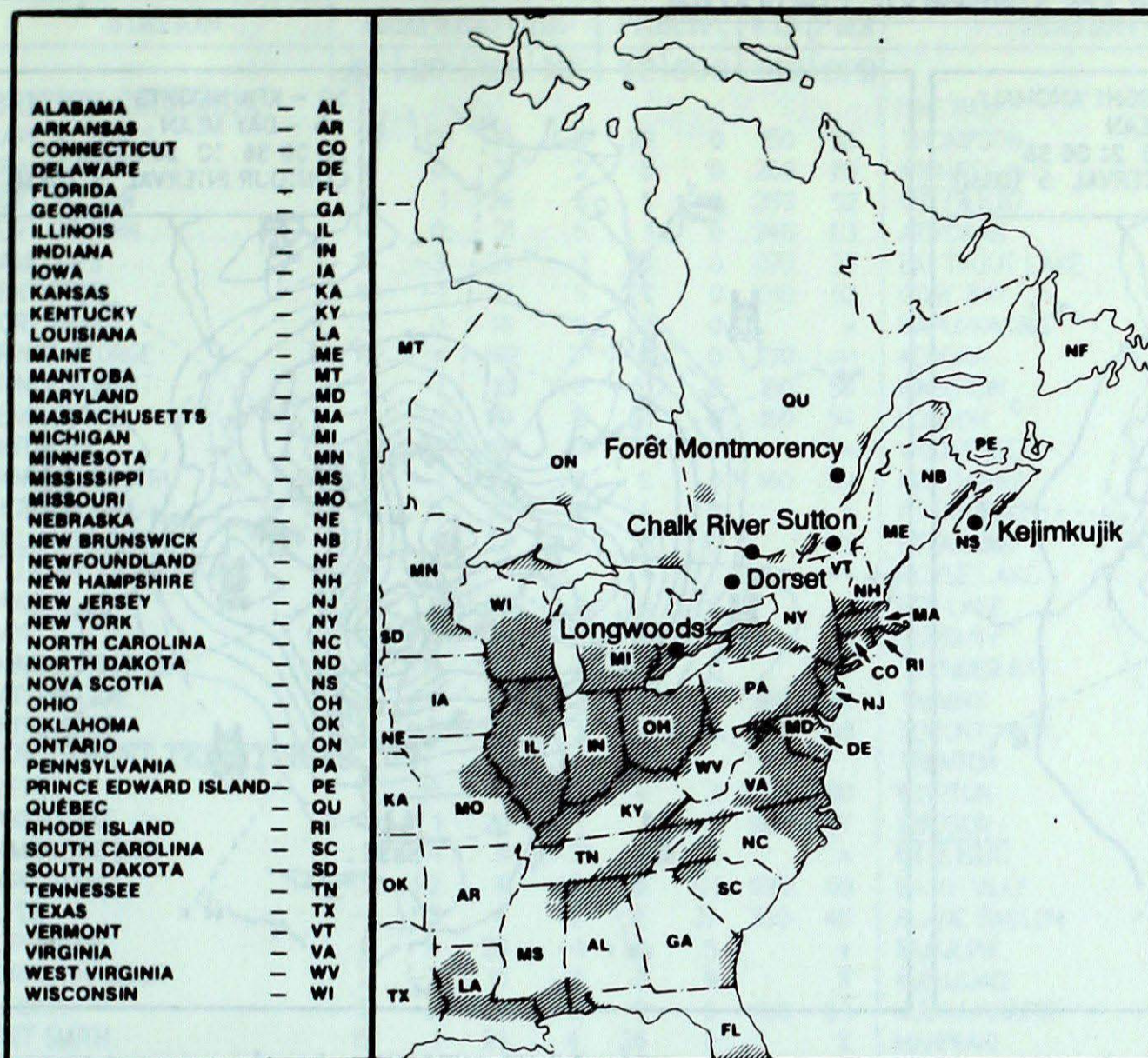
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ACID RAIN

ACID RAIN REPORT



The reference map (left) shows the locations of sampling sites where the acidity of precipitation is monitored. All are operated by Environment Canada except Dorset which is a research station operated by the Ontario Ministry of the Environment. The map also shows the approximate areas (shaded) where SO_2 and NO_x emissions are greatest. The table below gives the weekly report summarizing the acidity (or pH) of the rain or snow that fell at the collection sites and a description of the path travelled by the moisture laden air. Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH less than 4.7, while pH readings less than 4.0 are serious. For more information concerning the acid rain report, see Climatic Perspectives, Vol. 5 No. 50 p. 6.

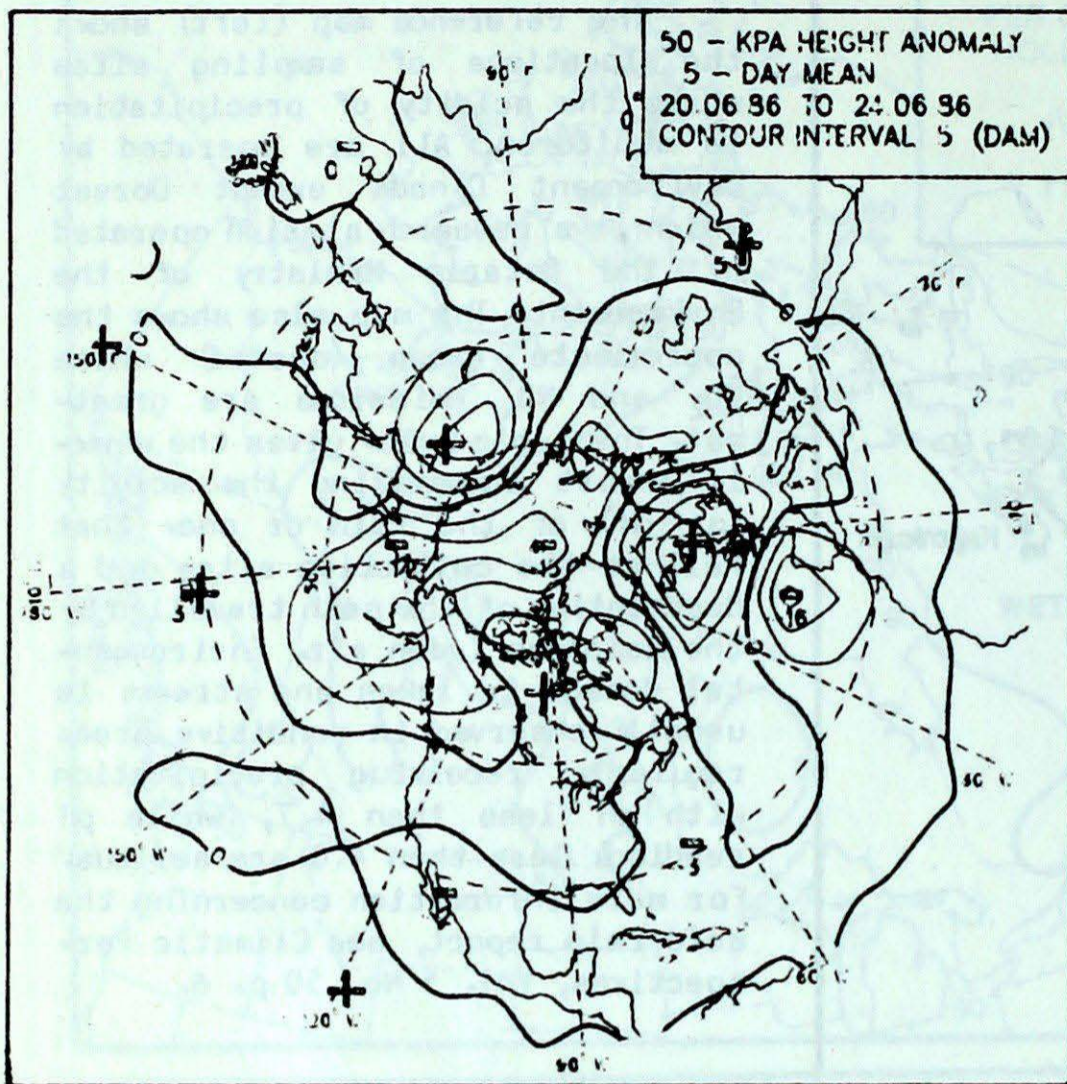
JUNE 15 TO JUNE 21, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	16	4.7	1(r)	Kentucky, Indiana, Southern Ontario
Dorset	16	4.4	25(r)	Ohio, Southern Ontario
	19	4.4	8(r)	Northern Michigan, Central Ontario
	21	3.8	1(r)	Michigan, Southern Ontario
Chalk River	16	4.7	9(r)	Southern Ontario
	19	4.4	2(r)	Northern Ontario, Central Ontario
	21	3.9	2(r)	Michigan, Southern Ontario
Sutton	15	3.7	1(r)	Ohio, Pennsylvania, New York
	16	4.3	14(r)	Virginia, Pennsylvania, New York
Montmorency	16	4.4	44(r)	New York, Southern Quebec
Kejimikujik	16	3.8	17(r)	Virginia, New Jersey, Atlantic Ocean
	20	4.3	8(r)	New York, Massachusetts, Atlantic Ocean

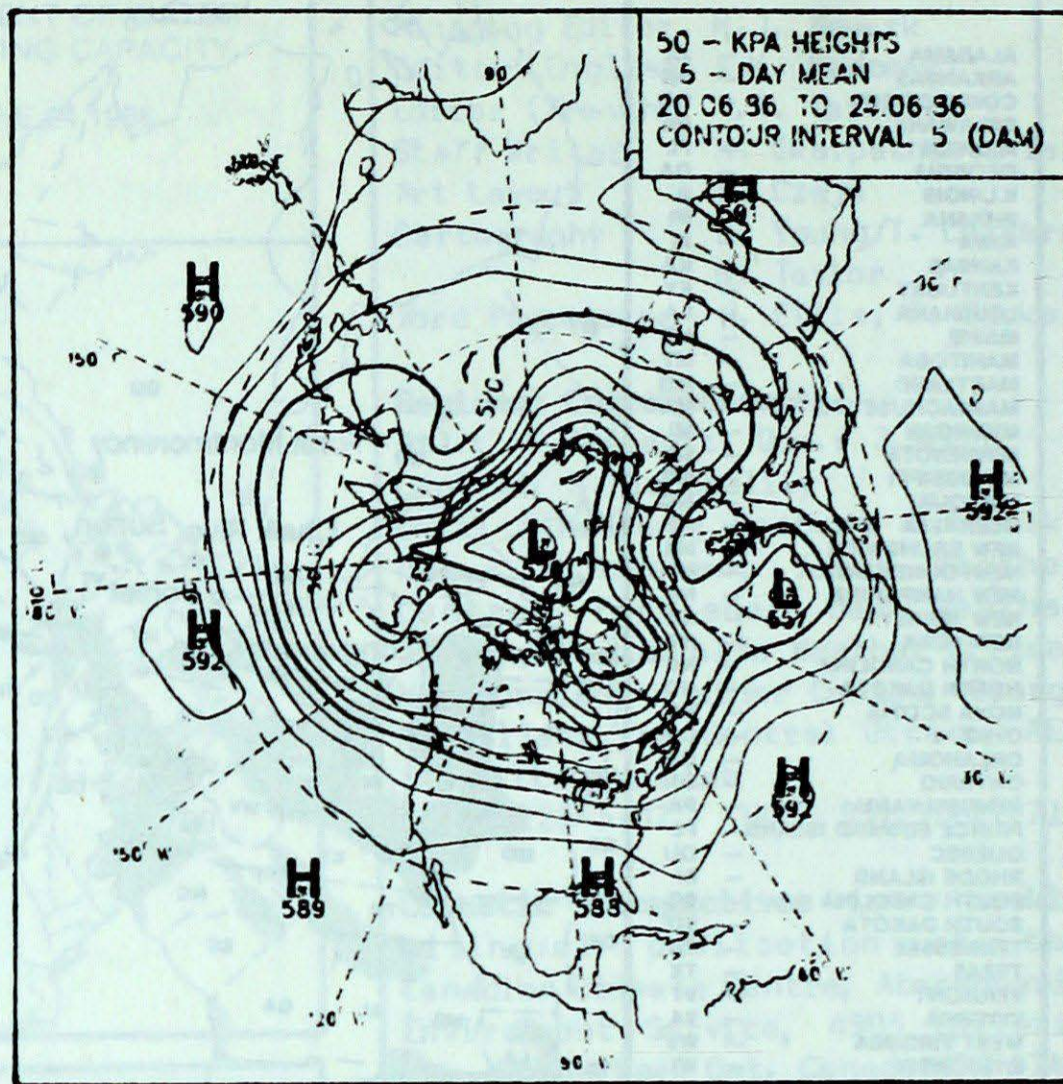
r = rain (mm), s = snow (cm), m = mixed rain and snow (mm).

CIRCULATION

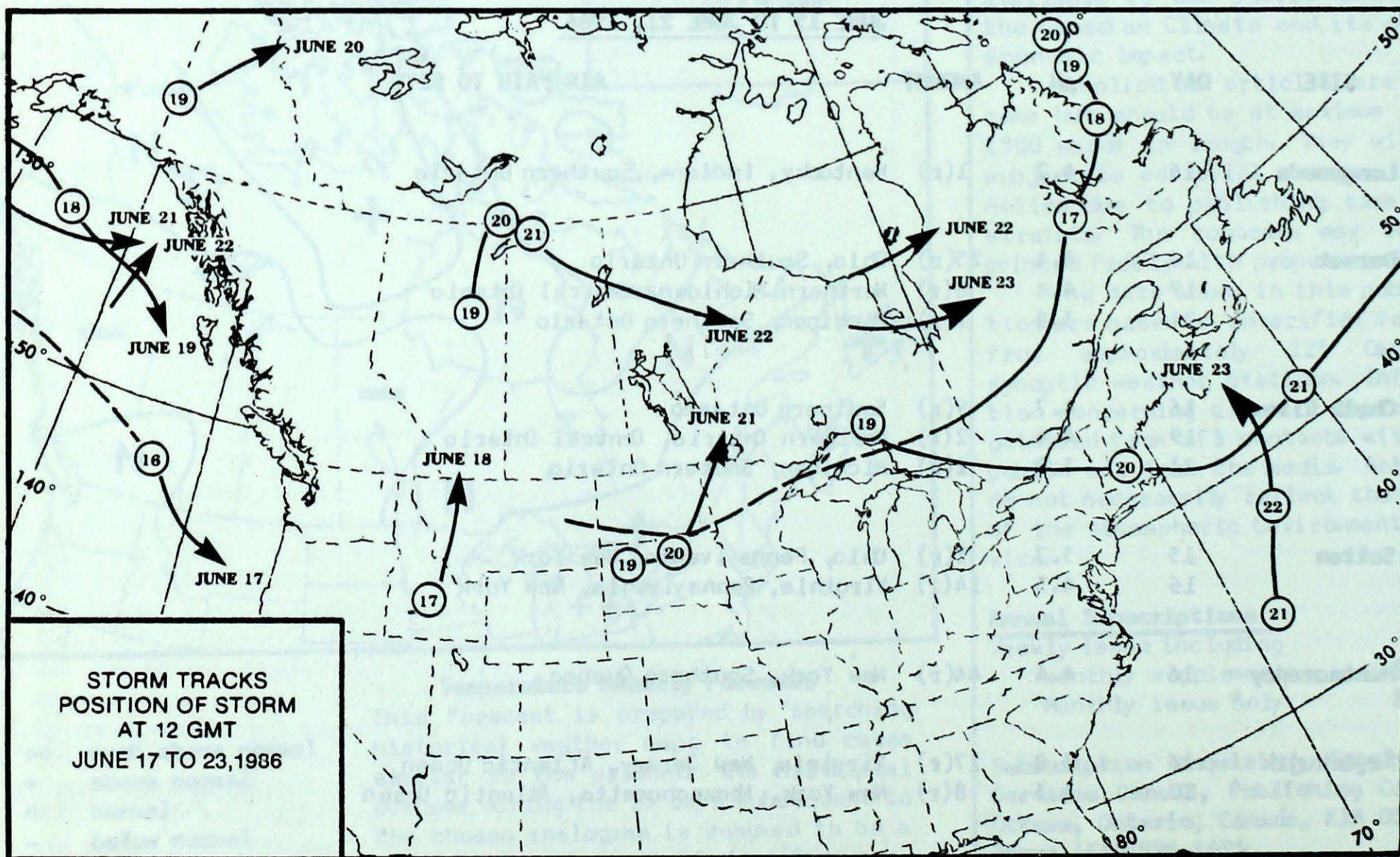
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
June 20 to June 24, 1986



MEAN 50 KPa HEIGHTS (dam)
June 20 to June 24, 1986



TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT JUNE 24, 1986

STATION	TEMPERATURE				PRECIP.		WIND MX		STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD		AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA									THE PAS	17	*	29	4	8	0	340	63
CAPE ST. JAMES	11P	0P	16	9P	29	0	150	56	THOMPSON	14	2	28	-3	15	0	280	63
CRANBROOK	16	0	31	2	5	0	260	65	WINNIPEG INT'L	20	3	33	8	23	0	290	69
FORT NELSON	16	1	26	5	5	0	280	52	ONTARIO								
FORT ST. JOHN	14	0	21	6	1	0	240	63	ATIKOKAN	16	2	29	0	54	0	310	83
KAMLOOPS	16	-3	29	1	15	0	070	37	BIG TROUT LAKE	14	*	25	0	9	0	010	85
PENTICTON	18	-1	32	5	27	0	010	52	GORE BAY	15P	-1P	26P	5P	2	0	170	50
PORT HARDY	12	0	16	9	67	0		*	KAPUSKASING	12	-3	25	-1	38	0	270	56
PRINCE GEORGE	11P	*	18P	2P	6	0	270	41	KENORA	18	2	31	9	38	0	350	41
PRINCE RUPERT	12	1	15	6	51	0	150	56	KINGSTON	16P	-1P	24P	8P	4	0		X
REVELSTOKE	15	-2	29	8	41	0	160	54	LONDON	17P	-2P	31P	-4P	21	0	260	85
SMITHERS	11P	-2P	19P	4P	11	0		*	MOOSONEE	10	-3	26	-4	27	*	320	52
VANCOUVER INT'L	15	-1	22	8	11	0	140	37	NORTH BAY	15	-1	26	1	4	0	300	33
VICTORIA INT'L	14	0	22	7	4	0		*	OTTAWA INT'L	17	-1	28	7	5	0		X
WILLIAMS LAKE	13	*	22	4	2	0		X	PETAWAWA	15	-2	31	3	5	0		X
YUKON TERRITORY									PICKLE LAKE	14	0	25	3	18	0	300	56
DAWSON	14	*	27	2	6	0		*	RED LAKE	16	1	27	4	21	0	300	48
MAYO	14	0	26	5	15	0		X	SUDBURY	15P	-1P	27P	2P	11P	0		X
SHINGLE POINT A	8	1	20	0	3P	0		*	THUNDER BAY	14	0	25	2	14	0	300	70
WATSON LAKE	12	-1	23	2	7	0	340	46	TIMMINS	12	-3	28	0	21	0	310	48
WHITEHORSE	11	-2	22	3	7	0	120	63	TORONTO INT'L	17	-1	32	6	14	0	310	52
NORTHWEST TERRITORIES									TRENTON	17	-1	27	9	7	0		X
ALERT	1	0	5	-3	4	3	220	80	WIARTON	15	-1	30	6	8	0		X
BAKER LAKE	6	1	20	-1	1	0	060	37	WINDSOR	20P	0P	32P	11P	27	0	280	54
CAMBRIDGE BAY	2	-1	11	-3	3	8		*	QUEBEC								
CAPE DYER	-2	-2	4	-6	35	121	090	69	BAGOTVILLE	14	-3	29	3	18	0	260	83
CLYDE	-1	-3	4	-4	16	37	330	48	BLANC SABLON	8	*	20	2	52	0		X
COPPERMINE	6	*	20	-1	0	5		*	INUKJUAK	4	-1	11	-2	1	0	350	39
CORAL HARBOUR	2	-2	10	-3	0	9		X	KUUJUAQ	4P	-5P	11P	-1P	20	0	010	65
EUREKA	2	-2	6	-2	2	0	160	63	KUUJUARAPIK	4P	-4P	19P	-3P	13	0	190	44
FORT SMITH	15	1	29	4	36	0		X	MANIWAKI	14	-2	28	2	2	0	290	43
FROBISHER BAY	3	-2	7	-2	7	0	050	44	MONT JOLI	14	-2	28	4	17	0	240	102
HALL BEACH	0	-2	3	-6	*	18	350	43	MONTREAL INT'L	17	-2	27	8	5	0	290	61
INUVIK	14	2	25	1	2	0		X	NATASHQUAN	8	-4	16	3	5	0	270	65
MOULD BAY	2P	0P	6P	-2P	1P	5		X	QUEBEC	15	-3	26	3	4	0	260	76
NORMAN WELLS	18	2	27	8	6	0		X	SCHIEFFERVILLE	6	-4	19	-2	71	0	300	70
RESOLUTE	-1	-2	2	-5	2	4	210	59	SEPT-ILES	10P	-3P	18P	3P	10	0	220	70
SACHS HARBOUR	3	0	14	-3	1	0		X	SHERBROOKE	14	-3	27	1	7	0	290	52
YELLOWKNIFE	13	-1	24	6	22	0	030	54	VAL D'OR	12	-3	29	0	10	0	320	65
ALBERTA									NEW BRUNSWICK								
CALGARY INT'L	17	3	31	7	2	0	200	85	CHARLO	13	-3	24	3	15	0	290	76
COLD LAKE	17	2	27	9	20	0	230	65	CHATHAM	14	-3	29	3	0P	0	280	72
CORONATION	17P	2P	29P	4P	21	0	360	61	FREDERICTON	14	-3	27	3	2	0	280	67
EDMONTON NAMAO	17	1	27	6	23	0	300	70	MONCTON	14P	-2P	25P	4P	2P	0	270	57
FORT MCMURRAY	16	2	30	8	29	0		X	SAINT JOHN	14P	0P	23P	3P	6	0	290	61
HIGH LEVEL	13	-2	25	2	43	0	300	46	NOVA SCOTIA								
JASPER	14	1	24	5	10	0		X	GREENWOOD	15	-2	25	4	17	0	280	89
LETHBRIDGE	18	2	32	5	4	0	240	74	SHEARWATER	14	0	21	8	8	0	290	54
MEDICINE HAT	19	2	34	7	16	0	250	69	SYDNEY	12	-2	24	1	5	0	190	63
PEACE RIVER	16	2	25	7	14	0	250	65	YARMOUTH	14	0	25	8	33	0	230	65
SASKATCHEWAN									PRINCE EDWARD ISLAND								
CREE LAKE	14	-1	27	6	14	0	210	93	CHARLOTTETOWN	15	-1	23	5	8	0	180	46
ESTEVAN	18	2	30	8	18	0	340	63	SUMMERSIDE	15	-1	24	8	4	0	260	61
LA RONGE	17	3	29	9	22	0	250	56	NEWFOUNDLAND								
REGINA	19	3	32	7	8	0	220	100	CARTWRIGHT	11	1	25	3	20	0	190	56
SASKATOON	18	2	32	7	18	0	310	93	CHURCHILL FALLS	9	-3	24	-1	47	0	120	59
SWIFT CURRENT	18	2	32	5	13	0		X	GANDER INT'L	14	0	26	5	4	0	200	67
YORKTON	18	2	31	6	5	0	270	70	GOOSE	13	0	30	3	6	0	260	56
MANITOBA									PORT-AUX-BASQUES	9P	-1P	15P	3P	7	0	180	74
BRANDON	18	2	31	8	23	0	290	93	ST JOHN'S	14	1	27	1	11	0	220	76
CHURCHILL	10	3	27	0	5	0	100	70	ST LAWRENCE	9	0	16	2	24	0		X
LYNN LAKE	15	2	27	2	4	0	230	65	WABUSH LAKE	8	-4	22	0	22	0	310	74

AV = weekly mean temperature in degree C
 MX = weekly extreme maximum temperature in degree C
 MN = weekly extreme minimum temperature in degree C
 TP = weekly total precipitation in mm
 DP = departure of mean temperature from normal in degree C
 SOG = snow depth on ground in cm, last day of the period

DIR = direction of maximum wind speed (deg. from true north)
 SPD = maximum wind speed in km/hour

X = not observed
 P = value based on less than 7 days
 * = missing